Some more series tests...

Key Learning: it is easier to show convergence/divergence of a series than to know the limit of a convergent series.

10.6/1-16

Comparison Test

$a_k, b_k > 0$ assume $a_k > b_k$ for every k

I have to know 1 of the series

if $\sum a_k$ converges ..... so does $\sum b_k$

If $\sum b_k$ diverges then so does $\sum a_k$

Mar 7-12:04 PM

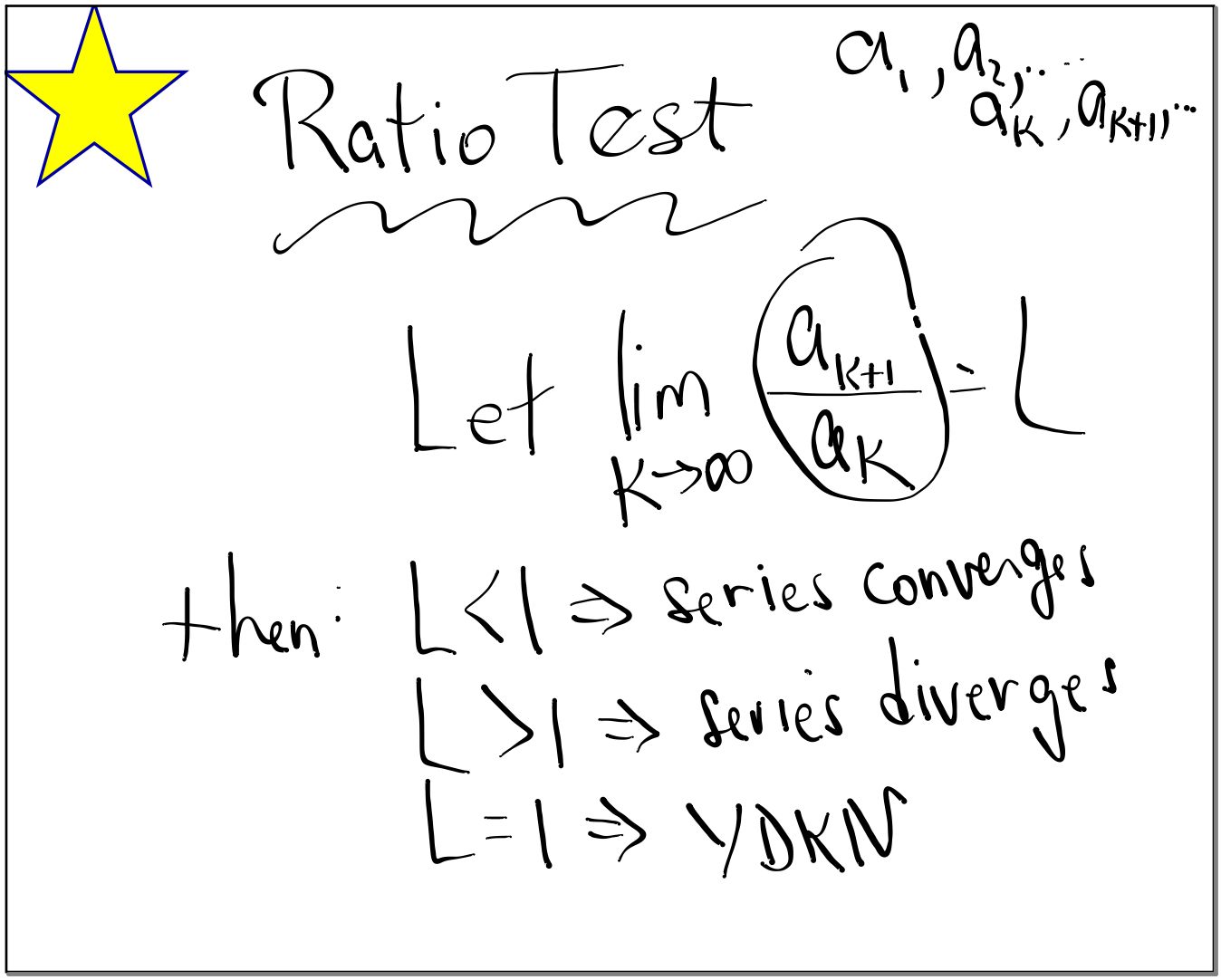
Limit Comparison test

Again, two positive-valued series, ...
I know about one.....

Let $\lim_{k\to\infty} \frac{a_k}{b_k} = L$

if $L > 0$

then both series Converge
OR both series diverge


Ratio Test
$a_1, a_2, \ldots a_k, a_{k+1} \ldots$
Let $\lim_{k\to\infty} \left(\frac{a_{k+1}}{a_k}\right) = L$
then: $L<1 \Rightarrow$ series converges
$L>1 \Rightarrow$ series diverges
$L=1 \Rightarrow$ YDKN